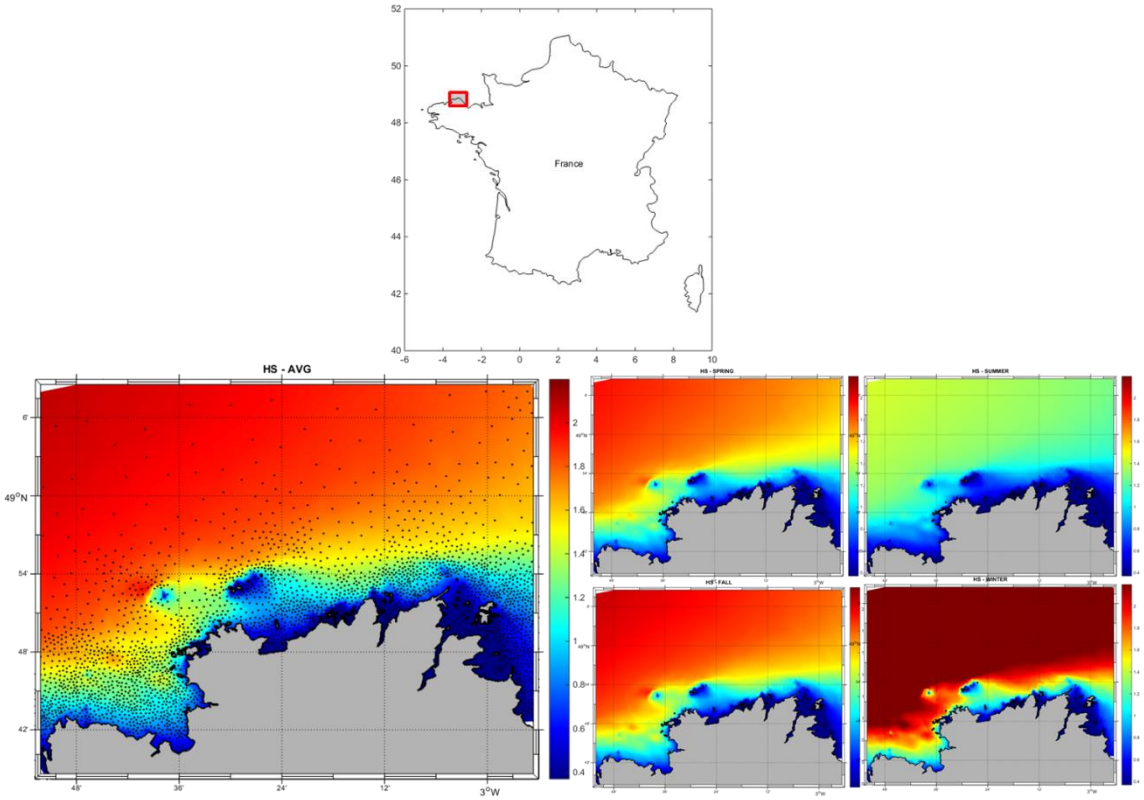
Maps of significant wave heights (wave_hs_maps.nc)

Significant wave heights (H_S or H_{m0}) are computed as four times the square root of the zeroth-order moment of the wave spectrum:

$$H_{m0} = 4\sqrt{m_0}$$

where m_n is the nth spectral moment that is defined as: $m_n = \int_0^\infty f^n S(f) df$. S is the non-directional wave spectrum that describes the relationship between the spectral density of the free surface elevation and the frequency f.



Example of significant wave height (m) maps produced using the data available from (website). Average values are in the left panel, with black dots representing the hindcast grid. Seasonal values are in the right panel.

Significant wave height maps are displaying the spatial distribution of annual/seasonal averages of significant wave heights, as well as the maximum value reached by the waves during the 19 year of the database. Seasons are December-February (winter), March-May (spring), June-August (summer), September-November (fall). All averages are computed based on the hourly outputs of the 19-year sea state hindcast Homere (Boudière et al. 2013). This hindcast was identified as the most appropriate single source of sea state variables for precise characterization of marine resources for marine energy purposes along the western coast of France (Dubranna et al. 2015).

Data download: Annual/seasonal averages of significant wave heights can be downloaded here using standard protocols (OPENDAP, HTTP, etc.).

Targeted end-users: Decision makers from national to local scale, investors, utilities and scientists.

References

Boudière, E., C. Maisondieu, F. Ardhuin, M. Accensi, L. Pineau-Guillou, and J. Lepesqueur. 2013. A suitable metocean hindcast database for the design of Marine energy converters. International Journal of Marine Energy **3-4**: e40–e52.

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Contact

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